

TABLE 4-continued

| Active substance           | Mean cumulative value $\pm$ s.d.<br>(% of placebo) |                     |
|----------------------------|----------------------------------------------------|---------------------|
|                            | lesion score                                       | ear thickness (mm)  |
| (% w/w)                    |                                                    |                     |
| Acyclovir                  | 8.0 $\pm$ 1.3 (118)                                | 3.3 $\pm$ 0.3 (100) |
| Hydrocortisone             | 6.0 $\pm$ 1.3 (88)                                 | 2.0 $\pm$ 0.2 (61)* |
| Acyclovir i.p.             | 7.0 $\pm$ 1.6 (103)                                | 3.0 $\pm$ 0.4 (88)  |
| Foscarnet + hydrocortisone | 6.2 $\pm$ 1.2 (91)                                 | 2.0 $\pm$ 0.1 (61)* |
| Acyclovir + hydrocortisone | 6.9 $\pm$ 1.5 (101)                                | 2.2 $\pm$ 0.1 (66)* |

FIG. 3 shows the mean ear thickness on days 4–21 p.i. after treatment with placebo, 3% foscarnet or 1.5% foscarnet plus 0.5% hydrocortisone on days 4–7 p.i. The figure shows that foscarnet in combination with hydrocortisone was clearly superior in reducing the ear thickness compared to foscarnet alone or placebo.

The results of the above experiments show that topical administration of a combination of an antiviral substance and an antiinflammatory glucocorticoid in addition to reducing the virus titer also reduces the inflammatory symptoms characteristic of a recurrent herpes infection as measured by ear thickness and lesion score.

What is claimed is:

1. A pharmaceutical composition for topical administration comprising a synergistic combination of a topically acceptable antiviral substance which is 1) a herpes-specific nucleoside analogue or an ester, salt or solvate thereof that is preferentially phosphorylated in virus-infected cells or 2) selected from the group consisting of cidofovir, PMEA, PAA and PFA or an ester, salt or solvate thereof, and an antiinflammatory glucocorticoid in a pharmaceutically acceptable carrier.

2. A pharmaceutical composition for topical administration comprising a synergistic combination of a topically acceptable antiviral substance selected from the group consisting of acyclovir, cidofovir, desciclovir, famciclovir, ganciclovir, lobucavir, penciclovir, PMEA, valacyclovir, 2242, PAA, PFA and H2G or an ester, salt or solvate thereof and an antiinflammatory glucocorticoid in a pharmaceutically acceptable carrier.

3. A pharmaceutical composition according to claim 1, wherein the antiinflammatory glucocorticoid is selected from the group consisting of hydrocortisone, alclometasone, desonide, fluprednidene, flumethasone, hydrocortisone butyrate, clobetasone, triamcinolone acetonide, betamethasone, budesonide, desoximethasone, diflorosane, fluocinolone, fluocortolone, fluticasone, methylprednisolone aceponate, mometasone and rofleponide or an ester, salt or solvate thereof.

4. A pharmaceutical composition according to claim 2, wherein the antiinflammatory glucocorticoid is selected from the group consisting of hydrocortisone, alclometasone, desonide, fluprednidene, flumethasone, hydrocortisone butyrate, clobetasone, triamcinolone acetonide, betamethasone, budesonide, desoximethasone, diflorosane, fluocinolone, fluocortolone, fluticasone, methylprednisolone aceponate, mometasone and rofleponide or an ester, salt or solvate thereof.

5. A pharmaceutical composition according to claim 1, wherein the antiviral substance is foscarnet and the antiinflammatory glucocorticoid is hydrocortisone, or an ester thereof.

6. A pharmaceutical composition according to claim 1, wherein the antiviral substance is foscarnet and the antiinflammatory glucocorticoid is budesonide, or an ester thereof.

7. A pharmaceutical composition according to claim 1, wherein the antiviral substance is acyclovir, or an ester, salt or solvate thereof, and the antiinflammatory glucocorticoid is hydrocortisone, or an ester thereof.

8. The pharmaceutical composition according to claim 5 comprising 0.1–10% foscarnet and 0.005–3% hydrocortisone.

9. The pharmaceutical composition according to claim 8 comprising 1–5% foscarnet.

10. The pharmaceutical composition according to claim 8 comprising 0.3–3% foscarnet and 0.25–1% hydrocortisone.

11. The pharmaceutical composition according to claim 6 comprising 0.1–10% foscarnet and 0.005–3% budesonide.

12. The pharmaceutical composition according to claim 11 comprising 1–5% foscarnet.

13. The pharmaceutical composition according to claim 7 comprising 0.1–10% acyclovir and 0.005–3% hydrocortisone.

14. The pharmaceutical composition according to claim 13 comprising 1–5% acyclovir.

15. The pharmaceutical composition according to claim 14 comprising 0.25–1% hydrocortisone.

16. A cream, lotion, gel, ointment, plaster, stick or pen containing a pharmaceutical composition according to any one of claims 1–15.

17. A method for the prophylaxis and/or treatment of herpesvirus infections of the skin or mucous membranes in mammals comprising topical administration, in combination or in sequence, of a therapeutically synergistic dose of a topically acceptable antiviral substance which is 1) a herpes-specific nucleoside analogue or an ester, salt or solvate thereof that is preferentially phosphorylated in virus-infected cells or 2) selected from the group consisting of cidofovir, PMEA, PAA and PFA or an ester, salt or solvate thereof and an antiinflammatory glucocorticoid.

18. A method for the prophylaxis and/or treatment of herpesvirus infections of the skin or mucous membranes in mammals comprising topical administration, in combination or in sequence, of a therapeutically synergistic dose of a topically acceptable antiviral substance selected from the group consisting of acyclovir, cidofovir, desciclovir, famciclovir, ganciclovir, lobucavir, penciclovir, PMEA, valacyclovir, 2242, PAA, PFA and H2G or an ester, salt or solvate thereof and an antiinflammatory glucocorticoid in a pharmaceutically acceptable carrier.

19. A method according to claim 17, wherein the antiinflammatory glucocorticoid is selected from the group consisting of hydrocortisone, alclometasone, desonide, fluprednidene, flumethasone, hydrocortisone butyrate, clobetasone, triamcinolone acetonide, betamethasone, budesonide, desoximethasone, diflorosane, fluocinolone, fluocortolone, fluticasone, methylprednisolone aceponate, mometasone and rofleponide or an ester, salt or solvate thereof.

20. A method according to claim 18, wherein the antiinflammatory glucocorticoid is selected from the group consisting of hydrocortisone, alclometasone, desonide, fluprednidene, flumethasone, hydrocortisone butyrate, clobetasone, triamcinolone acetonide, betamethasone, budesonide, desoximethasone, diflorosane, fluocinolone, fluocortolone, fluticasone, methylprednisolone aceponate, mometasone and rofleponide or an ester, salt or solvate thereof.

21. A method according to claim 17, wherein the antiviral substance is foscarnet and the antiinflammatory glucocorticoid is hydrocortisone, or an ester thereof.

22. A method according to claim 17, wherein the antiviral substance is foscarnet and the antiinflammatory glucocorticoid is budesonide, or an ester thereof.

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23. A method according to claim 17, wherein the antiviral substance is acyclovir, or an ester, salt or solvate thereof, and the antiinflammatory glucocorticoid is hydrocortisone, or an ester thereof.

24. A method for the prophylaxis and/or treatment of herpesvirus infections of the skin or mucous membranes in mammals comprising topical administration of a composition according to any one of claims 1-15.

25. A method according to claim 24 wherein the composition is contained in a cream, lotion, gel, ointment, plaster, stick or pen.

26. A method according to any one of claims 17-23, wherein the herpesvirus infection is a recurrent herpesvirus infection.

27. A method according to any one of claims 17-23, wherein the antiviral substance and the glucocorticoid are administered 1 to 10 times per day.

28. A method according to claim 27, wherein the antiviral substance and the glucocorticoid are administered 3 to 4 times per day.

29. A method according to claim 26, wherein the antiviral substance and the glucocorticoid are administered 1 to 10 times per day.

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30. A method according to claim 29, wherein the antiviral substance and the glucocorticoid are administered 3 to 4 times per day.

31. A method according to any one of claims 17-23 wherein the antiviral substance and the glucocorticoid are administered in combination and are contained in a cream, lotion, gel, ointment, plaster, stick or pen.

32. A method according to claim 24, wherein the herpesvirus infection is a recurrent herpesvirus infection.

33. A method according to claim 24, wherein the antiviral substance and the glucocorticoid are administered 1 to 10 times per day.

34. A method according to claim 33, wherein the antiviral substance and the glucocorticoid are administered 3 to 4 times per day.

35. A method according to claim 31, wherein the antiviral substance and the glucocorticoid are administered 1 to 10 times per day.

36. A method according to claim 35, wherein the antiviral substance and the glucocorticoid are administered 3 to 4 times per day.

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